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09/915,443	07/26/2001	Richard H. Cardwell	N09-001	7364

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EXAMINER	
MERED, HABTE	
ART UNIT	**PAPER NUMBER**
2662	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/915,443	CARDWELL ET AL
	Examiner	**Art Unit**
	Habte Mered	2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-25_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-25_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _26 July 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _20050301_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2 **Claims 1-13, 15-16, and 18-24** are rejected under 35 U.S.C. 102(e) as being anticipated by Grover et al (US 6, 819, 662), hereinafter referred to as Grover.

3. Regarding **claim 1,** Grover discloses a cost effective method of designing rings in a telecommunication network. Grover's method is available as a software tool and is called RingBuilder **(See Column 3, Lines 5-10; Column 4, Lines 5-35 and Figures 3A&3B).** Grover's method for designing a ring in a telecommunications network, comprises:

(a) selecting a largest demand from among a set of demands to be routed in the telecommunications network, where the largest demand is associated with a pair of nodes in the telecommunication network; **(See Column 8, Lines 52-60; Column 9, Lines 34-36; and Column 10, Lines 30-35; The pair of nodes in both Grover's and applicant's method are simply the source and destination nodes.)**

(b) generating a cycle of interest including a first path segment that starts at one of the pair of nodes with the largest demand and passes through one sequence of nodes to the destination node which is the other node of the pair of nodes with the largest

demand. This cycle of interest further includes a second path segment that starts at one of the pair of nodes with the largest demand and passes through one sequence of nodes to the destination node, which is the other node of the pair of nodes with the largest demand. All of the nodes between the pair of nodes with the largest demand are different from each other. **(See Elements 118 and 120 in Figure 3A, and Figure 26; Column 9, Lines 55-67, and Column 10, Lines 1-29;Grover discloses that his method creates a cycle which is a potential ring by either using the shortest physical path routing or shortest logical path routing which inevitably leads to the adding of nodes between the source and destination nodes over which the largest demand is to be routed.)**

(c) defining a plurality of potential rings each including, where the source and destination nodes along with at least one additional intermediate node in between the source and the destination node, serve as add-drop nodes for the handling of demand. Each of the potential rings carrying the largest demand also further carry at least one additional demand for each additional intermediate node on the respective potential ring; **(See Column 20, Lines 9-20;Column 29, Lines 22-23 and 35-36;Column 33, Lines 43-46;Column 37, Lines 65-67; Column 38, Lines 5-10; Figures 37B and 38A-C;Column 2, Lines 37-45; Grover further discloses that the span defined by the intermediate node and the end nodes (i.e. source and destination) has its own additional demand as shown in Figure 1.)**

(d) computing a cost for constructing each potential rings;**(See Column 3 Line 63 and Column 9, Line 21-35.)**

(e) comparing the computed cost of each of potential rings at least indirectly with a cost of a pre-determined benchmark architecture carrying the same demand as the respective potential rings; and **(Grover discloses that its RingBuilder tool was compared against the SCIP architecture and the relative cost comparison is shown in Figure s 16 and 18. The comparison between the two tools was done using the same demand over four different networks as shown in Figures 16 and 18. Therefore the cost of each potential ring in Grover's Ring Builder is compared indirectly with that of the SCIP architecture and directly with the ratio U/C. See Column 23, Lines 55-65; Column 9, Lines 29-49; and Column 13, Lines 9-12)**

(f) determining from the compared computed costs a network structure for carrying demand at a relatively lowest cost **(See Column 3, Lines 10-12; Column 4, Lines 1-3, 20-22, and 52-53; and Column 13, lines 9-12)**.

4. Regarding **claim 2**, Grover discloses a method further comprising inputting into a computer program (i.e. RingBuilder) by the user a set of demands, nodes identified as being in the network, links between the identified nodes of the network, and possible or available equipment, prior to the selection of the largest demand and the generation of cycles of interest. **(See Column 17, Lines 1-5 and Column 27, Lines 30-33)**

5. Regarding **claim 3**, Grover discloses the potential rings are combinations of links and nodes on the cycle of interest and include one add-drop multiplexer in each node.

(See Column 8, Lines 66-67and Column 9, Lines 1-5;Figure 2 shows such a potential ring.)

6 Regarding **claim 4**, Grover discloses that his software tool RingBuilder is an automated software tool responsible for selecting the largest demand, generating the cycles of interest, defining the potential rings, computing the construction costs, and comparing the computed costs. RingBuilder version 2 executes these tasks automatically and runs on a general-purpose digital computer. **(See Column 1, Lines 14-25; Column 9, Lines 50-54; Column 28, Lines 23-27; and Column 30, Line 66. Given that RingBuilder is a software tool and it has to run on a digital computer.)**

7. Regarding **claim 5**, Grover discloses a method, further comprising inputting into a computer a maximum ring circumference and eliminating from consideration any other potential rings having a circumference larger than the maximum circumference. **(See Column 33, Lines 63-67 and Column 34, Lines 1-3)**

8. Regarding **claim 6**, Grover discloses a method wherein the computing of the costs of the potential rings includes adding in the costs of equipment installed at the nodes of the cycle of interest. **(See Column 8, Lines 64-67 and Column 9, Lines 1-5 and Lines 29-49)**

9. Regarding **claim 7**, Grover discloses a method wherein the computing of the costs of potential rings includes adding in the costs of optical add-drop multiplexers at the source and destination nodes and all other intermediate nodes. **(Column 9, Lines 1-5 and Lines 29-49)**

10. Regarding **claim 8**, Grover discloses a method for optimized design of multiple ring networks, such as SONET and DWDM networks. Grover's method is applicable to a case wherein at least one of the potential rings is a DWDM ring; the computing of the cost of the DWDM potential ring includes adding in the costs of optical add-drop multiplexers. **(See Column 3, Lines 5-7; Column 9, Lines 1-5 and 29-49)**

11. Regarding **claim 9**, Grover discloses a method for optimized design of multiple ring networks, such as SONET and DWDM networks. Grover's method is applicable to a case wherein at least one of the potential rings is a SONET/SDH ring; the computing of the cost of the SONET/SDH potential ring includes adding in the costs of SONET add-drop multiplexers. **(See Column 3, Lines 5-7; Column 9, Lines 1-5 and 29-49; Column 22, Lines 12-22)**

12. Regarding **claim 10**, Grover discloses a method wherein the determining of the network structure includes identifying a potential ring having a lowest cost **(See Column 5, Lines 54-56)**, further comprising assigning, to the identified potential ring, the largest demand and at least a portion of said additional demand **(See Column 5, Line 18-27)**.

13. Regarding **claim 11**, Grover discloses a cost effective method of designing rings in a telecommunication network. Grover's method is available as a software tool and is called RingBuilder **(See Column 3, Lines 5-10; Column 4, Lines 5-35 and Figures 3A&3B).** Grover's method for designing a ring in a telecommunications network, comprises:

eliminating the largest demand from the set of demands **(Column 4, Line 23 and Column 11, Lines 55-59)**;

selecting a remaining largest demand from among a set of demands to be routed in the telecommunications network, where the remaining largest demand is associated with a pair of nodes in the telecommunication network; **(See Column 8, Lines 52-60 and Column 9, Lines 34-36; Column 10, Lines 30-35; The pair of nodes in both Grover's and applicant's method are simply the source and destination nodes.)**

generating an additional cycle of interest including a first additional path segment that starts at one of the additional pair of nodes with the largest demand and passes through one sequence of nodes to the destination node which is the other node of the additional pair of nodes with the largest demand. This cycle of interest further includes a second path segment that starts at one of the additional pair of nodes with the largest demand and passes through one sequence of nodes to the destination node, which is the other node of the additional pair of nodes with the largest demand. All of the nodes between the additional pair of nodes with the largest demand are different from each other. **(See Elements 118 and 120 in Figure 3A, and Figure 26; Column 9, Lines 55-67, and Column 10, Lines 1-29;Grover discloses that his method creates a cycle which is a potential ring by either using the shortest physical path routing or shortest logical path routing which inevitably leads to the adding of nodes between the source and destination nodes over which the largest demand is to be routed.)**

defining a plurality of additional potential rings each including, where the source and destination nodes along with at least one additional intermediate node in between the source and the destination node, serve as add-drop nodes for the handling of demand. Each of the additional potential rings carrying the largest demand also further carry at

least one additional demand for each additional intermediate node on the respective potential ring; **(See Column 20, Lines 9-20;Column 29, Lines 22-23 and 35-36;Column 33, Lines 43-46;Column 37, Lines 65-67; Column 38, Lines 5-10; Figures 37B and 38A-C;Column 2, Lines 37-45; Grover further discloses that the span defined by the intermediate node and the end nodes (i.e. source and destination) has its own additional demand as shown in Figure 1.)**

computing a cost for constructing each additional potential rings;**(See Column 3 Line 63 and Column 9, Line 21-35.)**

comparing the computed cost of each of additional potential rings at least indirectly with a cost of a pre-determined benchmark architecture carrying the same demand as the respective additional potential rings; and **(Grover discloses that its RingBuilder tool was compared against the SCIP architecture and the relative cost comparison is shown in Figure s 16 and 18. The comparison between the two tools was done using the same demand over four different networks as shown in Figures 16 and 18. Therefore the cost of each potential ring in Grover's Ring Builder is compared indirectly with that of the SCIP architecture and directly with the ratio U/C. See Column 23, Lines 55-65, Column 9 Lines 29-49, and Column 13, Lines 9-12)**

determining from the compared computed costs an additional network structure for carrying demand at a relatively lowest cost **(See Column 3, Lines 10-12; Column 4, Lines 1-3, 20-22, and 52-53; and Column 13, lines 9-12).**

13. Regarding **claim 12**, Grover discloses the difference in the ring design for metropolitan area networks verses long haul networks. For metropolitan area networks node costs are dominant over span costs and vice versa for long haul networks. (See Column 10, Lines 5-7 and Column 19, Lines 10-16). Grover method partitions network into a plurality of geographical areas and the steps involved in creating a geographical area includes;

breaking any demand from any distinct area geographical area into a portion going to a first interconnection point, from that first interconnection point to a second interconnection point of the foreign area, and from that second interconnection point to a final node; **(This is simply a description of a metropolitan network. Grover discusses the design of a metropolitan network as opposed to a long haul network design. See Column 10, Lines 5-7;Column 19, Lines 10-16; and Column 20, Lines 26-29)**

designing a ring network within each geographic area, where each of the geographic areas is designed to have transport systems handling only demand with endpoints within that respective area, the designing of each of the ring networks including the performance of steps (a) through (f); **(See Column 10, Lines 9-13;Grover teaches all aspects of the claimed invention as set forth in the rejection of claim 1)**

and designing an additional network to handle the demands between the interconnection points **(See Column 20, Lines 31-34; Grover further discloses that an additional intra-ring demand to handle the demands between the interconnection points.).**

14. Regarding **claim 13**, Grover discloses an iterative method wherein each potential ring is generated by adding a node from nodes located on already committed rings to a current set of add/drop nodes, **(Column 9, Lines 55-67, and Column 10, Lines 1-29;Since the goal is to design an interconnected telecommunication network the added node has to be on an existing network to serve as a destination or source and form an inter-ring network))** the added node being that node offering the largest demand to the current set of add/drop nodes. **(Column 8, Lines 52-60)**

15. Regarding **claim 15**, Grover discloses a method for designing a telecommunications network comprising a plurality of nodes and links interconnecting each nodes with one or more other nodes of the network, **(Column 3, Lines 48-53; and Column 4, Lines 7-12)** comprising:

inputting, into a computer, identifications of the nodes and the links of the network and demands between pairs of said nodes**(See Column 17, Lines 1-5 and Column 27, Lines 30-33)**;

operating the computer to define a series of rings and evaluate costs for each of the rings to determine a least-cost signal transmission structure for the network **(See Column 1, Lines 14-25; Column 9, Lines 50-54; Column 28, Lines 23-27; and Column 30, Line 66)**;

and building the least-cost signal transmission structure, wherein the operating of the computer includes: defining a set of demands, said set of demands initially consisting of the input demands; selecting a largest demand from the set of demands, the largest demand being associated with a first node and a second node; **(See Column 17, Lines**

1-5 and Column 27, Lines 30-33; Column 9, Lines 50-54; Column 28, Lines 23-27; and Column 30, Line 66;)

generating a cycle between first node and second node, the cycle including a first path and a second path each of nodes and links extending between first node and second node, second path having nodes and links all different from nodes and links of the first path; **(See Elements 118 and 120 in Figure 3A, and Figure 26; Column 9, Lines 55-67, and Column 10, Lines 1-29;Grover discloses that his method creates a cycle which is a potential ring by either using the shortest physical path routing or shortest logical path routing which inevitably leads to the adding of nodes between the source and destination nodes over which the largest demand is to be routed.)**

selecting different combinations of nodes on the cycle, each combination including first node(i.e. Source node) and a second node (destination node) and at least one other node on one of the first path and the second path, all of the nodes in any given one of the combinations having at least one demand to another node; **(See Column 20, Lines 9-20;Column 29, Lines 22-23 and 35-36;Column 33, Lines 43-46;Column 37, Lines 65-67; Column 38, Lines 5-10; Figures 37B and 38A-C;Column 2, Lines 37-45; Grover further discloses that the span defined by the intermediate node and the end nodes (i.e. source and destination) has its own additional demand as shown in Figure 1.)**

determining a cost to construct each of the combinations; ;**(See Column 3 Line 63 and Column 9, Line 21-35.)**

and executing cost comparisons on the combinations to ascertain the least-cost signal transmission structure for carrying the largest demand on said network. **(See Column 3, Lines 10-12; Column 4, Lines 1-3, 20-22, and 52-53; Column 9 Lines 29-49, and Column 13, Lines 9-12)**

16. Regarding **claim 16**, Grover discloses a method wherein the executing of the cost comparisons includes comparing the costs of at least some of the combinations with a cost of benchmark architecture **(Grover discloses that its RingBuilder tool was compared against the SCIP architecture and the relative cost comparison is shown in Figure s 16 and 18. The comparison between the two tools was done using the same demand over four different networks as shown in Figures 16 and 18. Therefore the cost of each potential ring in Grover's Ring Builder is compared indirectly with that of the SCIP architecture and directly with the ratio U/C. See Column 23, Lines 55-65, Column 9 Lines 29-49, and Column 13, Lines 9-12)**.

17. Regarding **claim 18**, Grover discloses a method wherein the executing of the cost comparisons also includes comparing the cost of a least costly ring with a cost of a point-to-point transmission system for carrying the largest demand. **(See Column 28, lines 53-55; Grover discloses as part of evaluating the cost of a ring the modules of the BuildRinger keeps track of the point-to-point span between the source and destination. In fact, if there are no intermediate nodes the source and destination nodes constitute point-to-point transmission system and its cost will always have**

to be compared to the least costly ring saved by the RingBuilder in its earlier iterations.)

18. Regarding **claim 19**, Grover discloses a method wherein the determining of the cost to construct any particular combinations of nodes includes costing installation of OADMs, to thereby determine cost of a DWDM ring. **(Grover discloses a method for optimized design of multiple ring networks, such as SONET and DWDM networks. See Column 3, Lines 5-7; Column 9, Lines 1-5 and 29-49)**

19. Regarding **claim 20,** Grover discloses wherein the determining of the cost to construct any particular combinations of nodes further includes costing installation of SONET/SDH equipment on the nodes, to thereby determine cost of a SONET/SDH ring. **(Grover discloses a method for optimized design of multiple ring networks, such as SONET and DWDM networks. See Column 3, Lines 5-7; Column 9, Lines 1-5 and 29-49)**

20. Regarding **claim 21**, a method wherein the costing of the SONET equipment is performed prior to the costing of the OADMs. **(Grover discloses a method for optimized design of multiple ring networks, such as SONET and DWDM networks. The applicant has not established convincingly why the SONET evaluation should be before DWDM. Grover's system based on the input parameters can design a DWDM ring or a SONET ring. It is clear that SONET equipment can be cheaper than the DWDM equipment but which cost to evaluate first is really a design decision. See Column 3, Lines 5-7; Column 9, Lines 1-5 and 29-49)**

21. Regarding **claim 22**, Grover discloses a method wherein the defining of set of demands includes eliminating any demand which has been used as the largest demand in generating a cycle, or which has previously been routed on a system. **(Column 4, Line 23 and Column 11, Lines 55-59)**

22. Regarding **claim 23**, Grover further discloses inputting ring constraints into a computer program prior to the operating thereof, where the ring constraints include a maximum circumference; determining, for each individual potential ring whether it violates the ring constraints; and eliminating any individual potential ring that violates the ring constraints. **(See Column 33, Lines 63-67 and Column 34, Lines 1-3)**

23. Regarding **claim 24**, Grover further discloses a method comprising inputting into the RingBuilder computer program, prior to selecting the largest demand and generating the cycle of interest with possible or available equipment. **(See Column 17, Lines 1-5 and Column 27, Lines 30-33)**

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

25. **Claims 14, 17 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Grover et al (US 6, 819, 662), hereinafter referred to as Grover, in view of De Vito et al (US 6, 061, 335), herein after referred to as De Vito.

Regarding **claims 14 and 17**, Grover teaches that hub nodes interconnect rings **(See Column 27, Lines 64-67)**. Grover however fails to expressly disclose dual hub architecture.

De Vito discloses dual hub architecture in Figure 1. De Vito further discloses how a dual-hubbed hierarchical ring topology serves as a local access to SONET architecture to interconnect a backbone ring to an access ring. **(See Column 2, Lines 6-19; Column 4, Lines 5-20)**. De Vito in Figure 2 teaches the design steps for the dual-hub architecture. **(See Column 4, Lines 56-67; Column 5, Lines 1-42)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Grover's method to benchmark it against De Vito's dual-hub ring architecture to obtain a relative cost comparison. The motivation to do the cost comparison is that network topologies consisting of dual-hubbed access rings and backbone rings are prevalent in large telecommunication networks and to have a design methodology that minimizes the cost of building such a network is crucial.

26. Regarding **clam 25**, Grover teaches that hub nodes interconnect rings **(See Column 27, Lines 64-67)**. Grover however fails to expressly disclose a method wherein a telecommunications network is a part of a larger network, and the telecommunications network serves a first geographical area, and the larger network also serves a second geographical area, where the first geographical area is being contained in the second geographical area, further comprising: partitioning the larger network to define the telecommunications network and at least one other network.

De Vito teaches a method wherein a telecommunications network is a part of a larger network **(See Figure 1 in its entirety)** and the telecommunications network serves a first geographical area **(Figure 1, access ring 101),** and the larger network also serves a second geographical area **(Figure 2, backbone ring 105)**, where the first geographical area is being contained in the second geographical area **(See Figure 1)**, further comprising: partitioning the larger network to define the telecommunications network and at least one other network**(See Figure 1, rings 101, 103, 105 and 110)** and designating one of the nodes of the first geographical area **(Figure 1 access ring 101)** as an interconnection node **(See Figure , dual hub nodes 107 and 109)** for demand between nodes of the first geographical area and nodes of the larger network outside the telecommunications network. **(See Column 4, Lines 5-21)**

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Grover's method of designing a SONET system that involves switches and encompass several geographical and/ or metropolitan areas using De Vito's dual-hub ring architecture. The motivation to use the dual-hub ring architecture will be to handle cases where the demand is directed from many demand nodes to a few destination nodes where the network topology consists of dual-hubbed access rings and backbone rings connected in a hierarchical manner.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patent is cited to show the state of the art with respect to method and system for determining optimized SONET Rings

US Patent (6, 094, 417) to Hansen et al

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Habte Mered whose telephone number is 571 272 6046. The examiner can normally be reached on Monday to Friday 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571 272 3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HM
03-04-2005

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